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Agenda

The agenda for the 2010 NSF ADVANCE Workshop: Negotiating the Ideal Faculty Position.

Negotiating the Ideal Faculty Position Workshop September 19-21, 2010

Made possible by an ADVANCE Institutional Transformation Award to Rice University

List of presentations and corresponding resource

Sunday Evening Keynote Speaker

- [Stepping Stones: I Got By With A Little Help From My Friends](#)

Cindy Farach-Carson

Associate Vice Provost for Research

Professor of Biochemistry, Cell Biology and Bioengineering

Monday Morning Panel Discussions

- [What Is A Search Committee Looking For? Putting Together A Successful Faculty Application: Research Statements, CVs, Cover Letters, Letters of Recommendation, and More](#)

Seiichi Matsuda (CHEM)

Jennifer West (BIOE)

Randi Martin(PSYC)

- [How To Stand Out In The Interview](#)

David Scott (STAT)

- [How to Maximize the Impact of Your Interview Seminar](#)

Emilia Morosan (PHYA)

- Finding the Right Institutional Fit For You: How to (Safely) Find Out About the Culture of the Department and College

Amina Qutub (BIOE)
Ilinca Stanciulescu (CEVE)
James McLurkin (CS)

Monday Lunch Speaker

- [Fear of Failure, Fear of Success](#)

Mikki Hebl – Professor of Psychology

Monday Afternoon Panel Discussions

- [Understanding the Tenure Process](#)

Jennifer West (BIOE)
Kathy Matthews (BCB)

- How to Obtain Funding

Theresa Good (NSF/UMBC)

- [Balancing Work and Life](#)
- [Handout: Work – Life Balance](#)

Carrie Masiello (ESCI)
Joff Silberg (BCB)
Hadley Wickham (STAT)
Junghae Suh (BIOE)

- [Technical Presentation Skills](#)

Tracy Volz (School of Engineering)

Tuesday Morning Panel Discussions

- [Building Your Research Group: Non-Experimental Transitioning to Independence](#)

Jamie Padgett (CEVE)
Danijela Damjanovic (MATH)
Tatiana Schnur (PSYC)

- [Building Your Lab – Experimental: Transitioning to Independence](#)

Bonnie Bartel (BCB)

Rob Griffin (CEVE)

- Teaching Your First Course: Balancing Teaching and Research

Jane Grande-Allen (BIOE)

Yousif Shamoo (BCB)

Fred Oswald (PSYC)

- How and When To Negotiate a Good Start Up Package

Brendan Hassett (MATH)

Janet Braam (BCB)

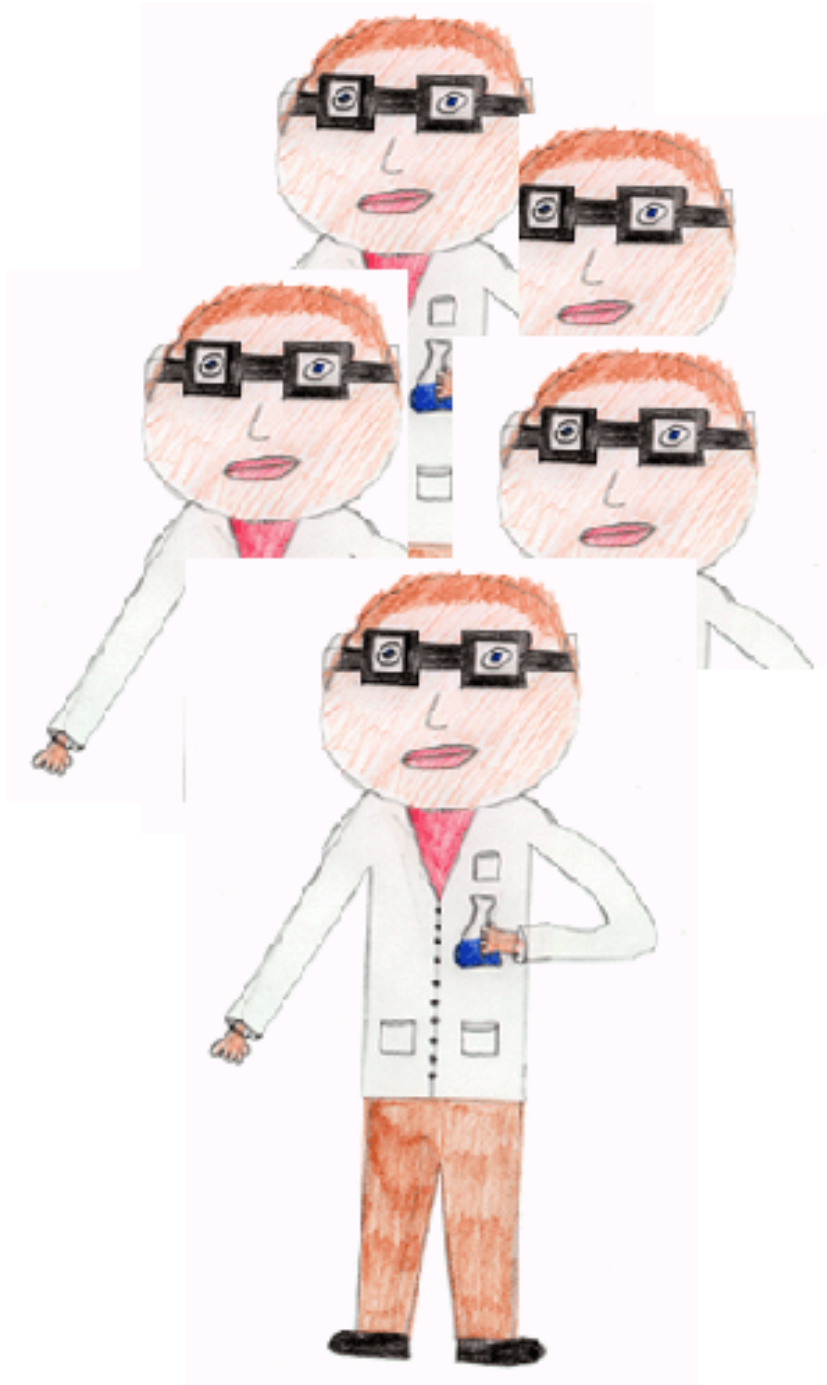
- Managing a Research Group: Lessons Learned

Vicki Colvin, Kenneth S. Pitzer-Schlumberger Professor of Chemistry
and Chemical and Biomolecular Engineering

Stepping Stones: I Got By With a Little (Lotta!) Help From My Friends
Keynote presentation presented by Cindy Farach-Carson at the 2010 NSF
ADVANCE Workshop: Negotiating the Ideal Faculty Position, A Workshop
for Underrepresented PhDs and Postdocs in Science, Engineering and
Psychology September 19-21, 2010

Missing here from this presentation are all the dedication to the people who
made a huge difference in my life! They may not be comfortable with me
posting them all on the web. You know who you are!

My Graduate Review Committee



“Best of luck with your baby, we will understand if you choose not to return to the laboratory.”

My First Research Faculty Position



Sometimes you need a “Geographical Cure”

If it feels wrong, get out!!

My Life as a Juggler: Tenure Track (1991-95)



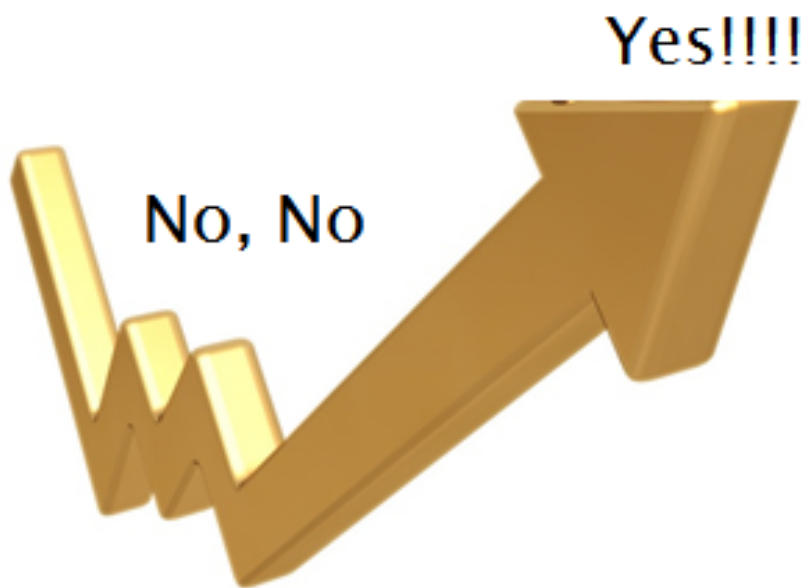


"Behind one door is tenure - behind the other
is flipping burgers at McDonald's."

Copyright © 2003 David Farley, d-farley@ibiblio.org

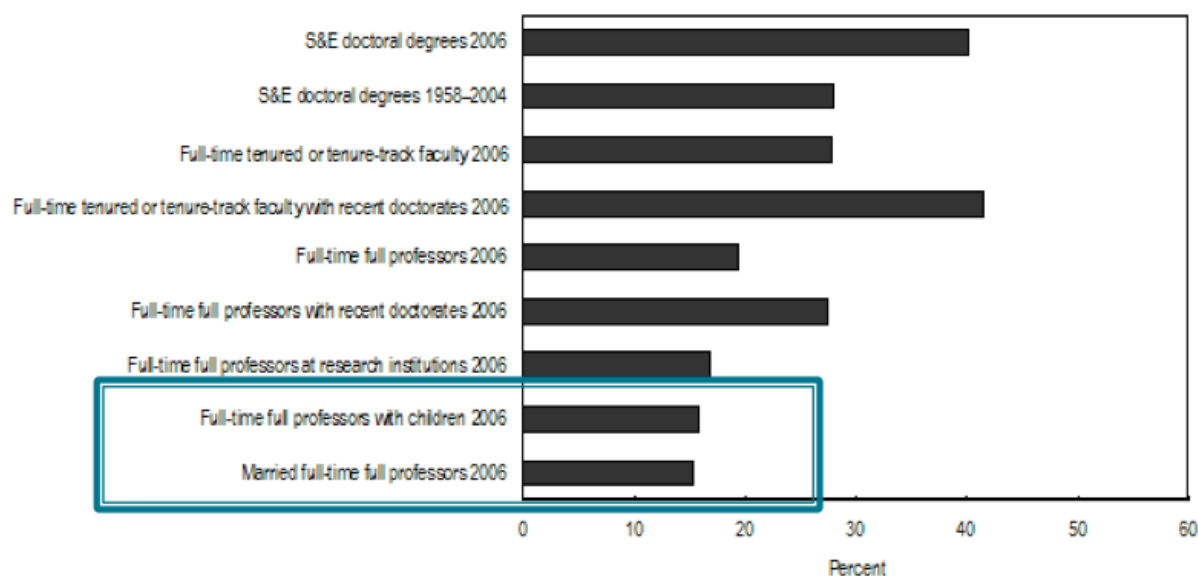
A Test of Determination: Tenure

It's amazing what another job offer can do. Sometimes, your value is best determined by testing it on the market.



Professor at Last (2000)!

FIGURE 1. Women as a percentage of science, engineering, and health doctoral degrees; full-time full professors; and full-time tenure-track faculty



NOTES: Academic employment is limited to U.S. science, engineering, and health doctorate holders employed at 2- or 4-year colleges or universities and does not include postdocs. For tenured or tenure-track faculty, "recent" doctorates refers to those earned within the previous 7 years. For full-time full professors, "recent" doctorates refer to those earned between 11 and 15 years prior to the survey.

SOURCES: National Science Foundation, Division of Science Resources Statistics, Survey of Doctorate Recipients: 2006 and Survey of Earned Doctorates: 1958–2004.

Recognizing the importance of ADVANCE, WISE, and AWIS.

My Sabbatical: My Transition to Administration and Translational Research (2005-06)



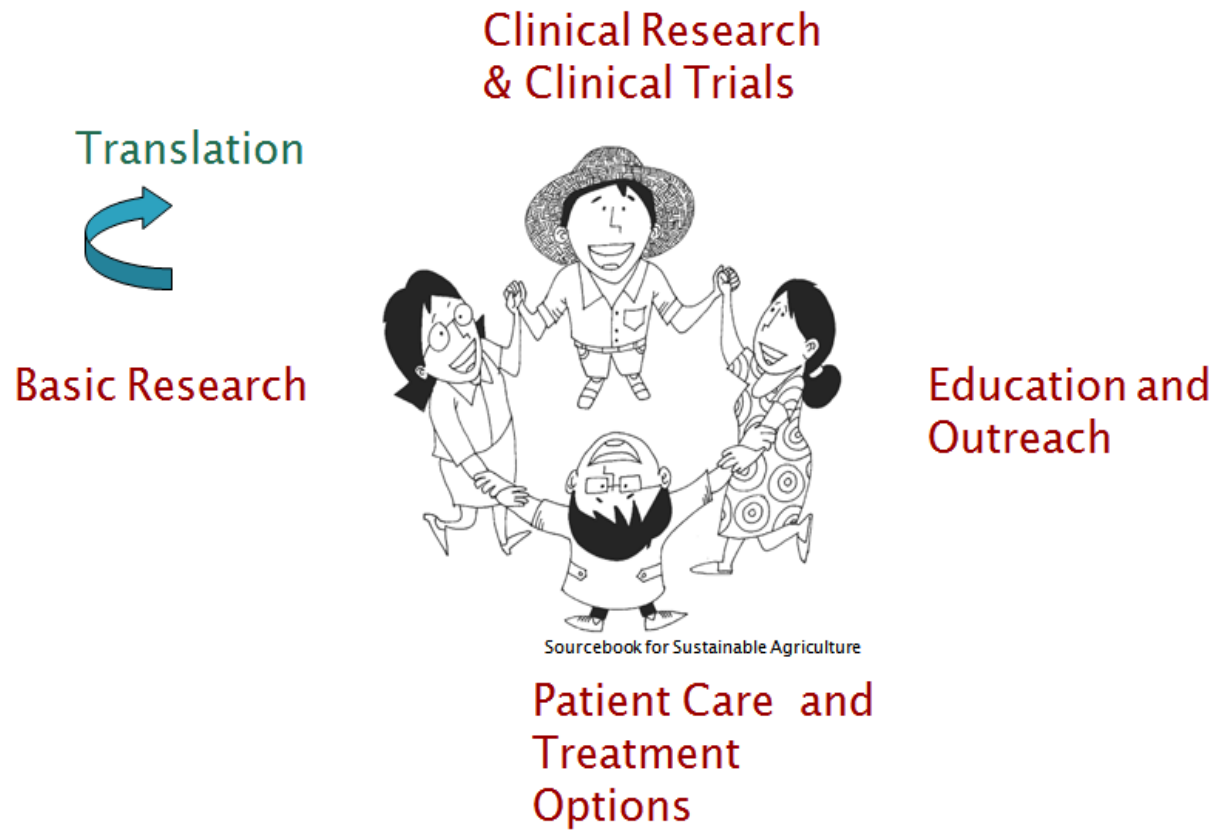


Nicholas Petrelli, M.D. Medical Director, Helen F. Graham Cancer Center



with the Cancer Registry team

Translational Research: Because it Matters!



My Return to Texas and Rice University (2009)



The Ultimate Place for Translational and Collaborative Research!





Lessons Learned



1. You can't do it alone.
2. Make good friends and colleagues and don't neglect them.
3. Don't let other people define your job, your family or your recipe for happiness.
4. Don't give up easily- but lose well when you do.
5. Ask for what you need to do your job well.
6. Don't be afraid to say no.
7. Work hard, be nice! [This is a book now too]
8. Be generous with your time, your money and your heart.
9. Be fair and ask to be treated fairly.
10. Play!

What are Search Committees Looking for???

Panel discussion presented by Seiichi Matsuda, Jennifer West, and Randi Martin at the 2010 NSF ADVANCE Workshop: Negotiating the Ideal Faculty Position, A Workshop for Underrepresented PhDs and Postdocs in Science, Engineering and Psychology September 19-21, 2010

What are we looking for?

The tenure package

- Publications
- Grants
- Invited talks
- Teaching
- Service

The University's timeline

- **Jun-Aug:** Decide on search criteria
- **Sept-Nov:** Evaluate applicant packages
- **Nov-Jan:** Select the short list
- **Dec-Feb:** Interview
- **Feb-Apr:** Decide on offers
- **Feb-Apr:** Close the deal

Applying for a Position

- “Cold” applications
 - Usually need to have connections to the department
- Responding to an advertisement
 - Consider level and areas requested
- Solicited applications

- Be sure to present at the most relevant conferences. Hopefully this visibility will lead to contacts with hiring departments.

The Application

- Cover letter
 - Summarize your qualifications and interests
- Curriculum Vitae
 - Academic credentials
 - Research experience
 - Publications
 - Honors, awards, grants, etc.
- Research interests statement
- Teaching interests statement
- References
- May include reprints/preprints

Note: Some variability in details and format between fields

Note: Get feedback on your application package from a mentor.

Note: Get examples!

Research Statement

- Remember that the search committee members may be in areas peripheral to your research
- Describe two or three research proposals
 - How proposals should connect to prior work is very much field-dependent!
 - Usually one that is related to your prior work that is clearly feasible
 - One or two projects that demonstrate your ability to think beyond your current work

What to Include?

- Statement about the problem
 - Key unanswered questions in field
 - How will your work contribute?
- Description of research plans
 - Break into specific aims
 - Include figures
 - Be both creative and realistic- mix of high-likelihood and high-reward projects

Teaching Statement

- Describe your philosophy towards teaching and experiences that led to this
- Discuss courses within the core curriculum that you could teach
- Propose development of a new course

What to Emphasize in your Application?

- Find out about the department/school
 - Importance of teaching vs. research

- Areas of interest/growth
- May want to customize your application materials for different positions
- Brag about your successes (within reason)!

What is Makes an Application Stand Out?

- Varies between departments/institutions
- Strong publication record
 - Most important factor!
- Exciting research plan
 - Creative and innovative while also feasible
- Great reference letters
 - Evidence of innovation, creativity, hard work, etc.
- Interesting and innovative teaching plans
 - Highlight your experiences and capabilities
- Other experiences
 - Experience writing a grant, etc.

Recommended Reading

- Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty
 - Howard Hughes Medical Institute
- At the Helm: A Laboratory Navigator

- Kathy Barker, Cold Spring Harbor Press

How To Stand Out in the Interview

Panel discussion presented by David Scott at the 2010 NSF ADVANCE Workshop: Negotiating the Ideal Faculty Position, A Workshop for Underrepresented PhDs and Postdocs in Science, Engineering and Psychology September 19-21, 2010

You've Gotten the Phone Call

Congratulations!

A committee has judged you as a potential good fit.

The interview is your chance to seal the deal.

- Lots of details arranging a visit.
- Have a calendar at hand.
- Being asked to interview first may be a very good sign.
- If you are fortunate enough to be asked by several institutions to visit, think carefully about conflicts.
- What if you interview on Jan 8 and get an offer good for two weeks, and your first choice interview is on Feb 12? (You can only say "yes" once.)

What Is Going On Behind the Scene?

- A search committee has selected 3-4 candidates.
- The entire faculty agrees.
- The chair calls the candidates and schedules visits.
- An itinerary is constructed for each candidate.
- The interview occurs.
- The chair and search committee re-evaluate the candidates. A recommendation to the department is composed.
- The department votes to make an offer.
- The Dean must sign off
- You get the call.

Start Your Preparations

Putting together your talk is the most important item. Emilia Morosan will tell you how, in a few minutes.

- Preparation (and practice) are key.
- You may meet fifteen or twenty faculty.
- You may have one-on-one interviews with
 - Department chair
 - Dean of the School
 - Ten senior faculty (and junior faculty)
 - A selection of graduate students
- Read everything you can about the department.

How Should You Prepare To Meet Faculty?

Focus your attention on the Chair and on key faculty in your research area.

- Read CV's carefully and thoroughly.
- The conversation will not just be about your thesis research.
- How will you complement the department's current work?
- What new area(s) of expertise will you offer?
- Read several papers by these faculty. You can suggest possible collaborations. You can ask probing questions.
- *Do not be passive or overly deferential. You are not a graduate student, but a faculty candidate!*

What Should You Expect?

- Some faculty will view their role as educating ("selling") you about the department, the university, and the town.
- Some faculty will focus on your teaching interests, and curriculum development.
- Some faculty will probe your understanding of the "big picture." What directions interest you? What do you plan to undertake in the next ten

years? (Hard)

- Some faculty will ask probing questions about your research.
- Have answers ready! Ask for clarification rather than ramble. It is OK to say "I don't know," or qualify your answer.

Prepare Your Questions

You do not want to leave after two days uncertain if you would take the job if offered. You should ask about

- the tenure process
- teaching expectations (and load)
- how I will fit in
- research/publication expectations (which journals?)
- external funding expectations
- startup benefits (lab, reduced teaching)
- would it be OK if I write a large software package

The generational issue

The Beloit College Mindset List for the Class of 2014

Most students entering college for the first time this fall—the Class of 2014—were born in 1992.

For these students, Benny Hill, Sam Kinison, Sam Walton, Bert Parks and Tony Perkins have always been dead.

- Few in the class know how to write in cursive
- Email is just too slow, and they seldom if ever use snail mail
- "Go West, Young College Grad" has always implied "and don't stop until you get to Asia...and learn Chinese along the way."
- Al Gore has always been animated.
- Los Angelenos have always been trying to get along.
- Buffy has always been meeting her obligations to hunt down Lothos and the other blood-suckers at Hemery High.

- "Caramel macchiato" and "venti half-caf vanilla latte" have always been street corner lingo
- With increasing numbers of ramps, Braille signs, and handicapped parking spaces, the world has always been trying harder disabilities
- Had it remained operational, the villainous computer HAL could be their college classmate this fall, but they have a better c folks on Parents' Weekend.
- Entering college this fall in a country where a quarter of young people under 18 have at least one immigrant parent, they involves "real" aliens from another planet.
- John McEnroe has never played professional tennis.
- Clint Eastwood is better known as a sensitive director than as Dirty Harry

Seriously, does it matter?

The interview does not end with interviews and your talk. Conversations at meals/receptions are just as important.

- You probably have been incredibly busy with your research and writing.
- You may have given up reading the newspaper or watching TV news.
- You need a crash course on current events.
- It is OK not to know which TV series Clint Eastwood was in: *Wagon Train*, *Rawhide*, or *Gunsmoke*.
- It is *not* OK to have nothing to offer on current events.
- Be prepared to engage in a conversation about hobbies/activities you enjoy. The total package.

As the Interview Ends

- Typically, you will have a final meeting with the Department Chair
- “Do you have any last questions?”
- Don't be disappointed if the signals are ambiguous
- “We'll be in touch.”
- It is appropriate to express your appreciation of all the work and time spent on your interview.

- If someone drives you to the airport, keep the conversation going. “I was very impressed by the questions the graduate students made...”

After the Interview

- A thank you note to the Department Chair is a good idea.
- If you promised Professor X a copy of your paper, be sure to follow through.
- (Keep notes. You will be completely exhausted by the end and your memory may blur important details.)
- Think critically about what you learned during the interview.
- If during a later interview, you realize you did not cover a particular topic, you can contact the Chair.
- Or maybe you should wait for “the phone call.”
- Good Luck!

How to Maximize the Impact Of Your Interview Seminar
Panel discussion presented by Emilia Morosan at the 2010 NSF ADVANCE
Workshop: Negotiating the Ideal Faculty Position, A Workshop for
Underrepresented PhDs and Postdocs in Science, Engineering and
Psychology September 19-21, 2010

Outline

- Strategy:
 - What is an interview?
 - How a hiring decision is made?
- The formal presentation –on campus visit
 - Before the visit:
 - Know institution
 - Know audience
 - During the visit
 - What you should talk about
 - What you should ask
 - Good technical presentation
- Questions and discussion

Strategy

You want to stand out in a positive way

- “Never alone and awake at the same time”
- The interview visit starts when host picks you up at the hotel and ends when host drops you off at the hotel
 - You are on even during dinner on the last day of visit

- “Interview”= entire campus visit
 - One-on-one meetings
 - Formal presentation
 - Informal meetings and interactions

Strategy

How a hiring decision is made (at R1 university)

- Step 1: being invited for the interview
 - Application (anywhere from 50 to 150 applicants for *one* position)
 - 3-4 applicants selected for the interview
 - Recommendations from dissertation advisor, postdoc supervisor, others
 - Match between position requirements and applicants’ research focus
 - Publication record: quantity, journal quality, impact (citations/year)
 - Formal application materials
 - Not a time to be modest—help search committee members identify your strengths on paper and want to learn more (bring you for a campus interview).
- Step 2: getting the offer
 - THE CAMPUS VISIT
 - you want to present yourself well (more in a minute)
 - you want to learn as much as possible
 - Don’t forget: you too are “interviewing” the department and should not leave campus without knowing whether it is a fit for you

- Decision on offer:
 - search committee members ⇒ vote by all faculty ⇒ dean (final say)

The formal presentation

- Homework before the visit
- Most important rules for interview presentation (and beyond):
 1. Who is the audience?
 - Listen to your host's instructions: "plan a department colloquium talk; our graduate and some undergraduate students routinely attend department colloquia"
 2. What is the context for the presentation?
 - You are the specialist, but almost nobody else in the audience is familiar with a lot of the "hot" research field you are about to discuss
- Practice your talk before coming to campus

Homework before the visit

- Read about the institution, the department and the research group you would belong to
- Ask ahead as many questions as necessary to prepare appropriate-level presentation
- Ask to meet with people you think will help you evaluate how good a fit the position is
 - Assistant profs in the department
 - Potential collaborators in the department and other departments
 - Female or minority faculty
 - Graduate students

- Human resources staff
- How to get all this info?
 - Your contact person (usually search committee chair, person who contacted you with the invitation for interview)
 - Department assistant
- Think about all the information offered
 - They will really expect you to fulfill those tasks

“The department has been running a very successful Professional Masters Program, and we currently only have two faculty teaching courses for the program. The newly hired faculty will have to get in on the rotations for a couple of the courses for this program.”

- Think about questions you will want to ask:
 - What are the P&T criteria?
 - Expectations for research \$\$ and grad student support
 - Teaching load
 - Department strategic plan
- Find out what courses the department needs you to teach
- Find out department’s priorities with regards to research areas
- **KNOW EVERYBODY ON YOUR SCHEDULE**
 - Know what their research area is
 - Have relevant questions during one-on-one meetings
 - Can suggest possible collaborations
 - Be aggressive!
 - One possible scenario: “this is easy, the faculty I’m meeting do most of the talking, I’m not being asked much about my

research”...

- STOP! You must thoughtfully get into the conversation:

“I find your project very interesting, especially since last year I discovered the same effect in this other device. What I did was... I wonder what you think about applying your technique to my device.”

During the campus visit

- Present yourself as confident and competent
- When and how much can you use “I don’t know”
- What (not) to wear
- When to ask questions and what questions to ask (see “homework” before)
- The presentation
 - “Elevator speech”
 - The departmental talk
- “Elevator speech”

In the elevator on your way to your next appointment, you are introduced to Dr. Smith, Associate Dean for Research. Dr. Smith is not in your area so after shaking hands he asks: “So, what do you do?”

must have a short speech that describes your research interest in a compelling way to someone outside your area

- Must prepare for this: find someone outside your research area, practice
 - Start with the handshake

- Remember it is not a very tall building (key: 1-minute but compelling)
- Review: figure out what messages you want to convey

The departmental talk

- Good technical presentation:
 - Well organized, clear
 - Outline, Introduction, Main presentation, Conclusions and Outlook
 - Keep time

Good technical presentation

- Introduction – 10 minutes
 - Get the audience interested and excited:
 - Why is the topic important?
 - What is the background and context?
- Main presentation – 30 minutes
 - What you did:
 - Give enough details to make point, show how important your work is
 - Keep it simple – OK to leave some details out for clarity
 - Most important results
 - What they mean
 - Only experts may follow the last 10 minutes of this part
 - Plan on some flexibility: Watch time and be prepared to skip or add slides to keep time – decide beforehand what to skip or add

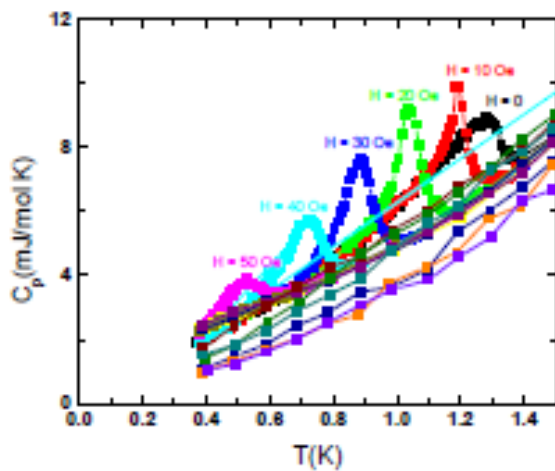
- Conclusions and Outlook – 10 minutes
 - What are the implications
 - “the new technique I developed could be applied to reinvestigate this decades-old question”
 - “the long-lasting prediction is confirmed by this new material I developed”
 - Where is the field going as a result of your work?
 - What direction is your work going to take from here?

Important details

- Clean slides, no typos, large font
- Outline easy to follow
- Appropriately cite other’s related work, especially if in the audience
- Practice talk in front of varied audience (if possible your lab mates, your supervisor, family or friends outside area, undergraduate students)
 - It may be very helpful (and sometimes painful) to record your talk and then review
- Practice answering questions
- Don’t get defensive

The good...

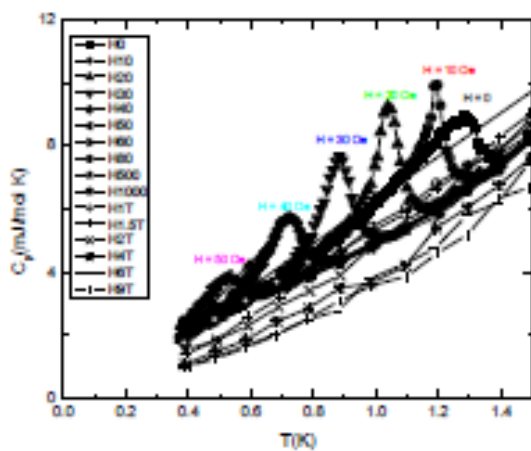
Specific heat



- Superconducting transition at $T_c = 1.4$ K
- Transition moves down in temperature with applied field

the bad...

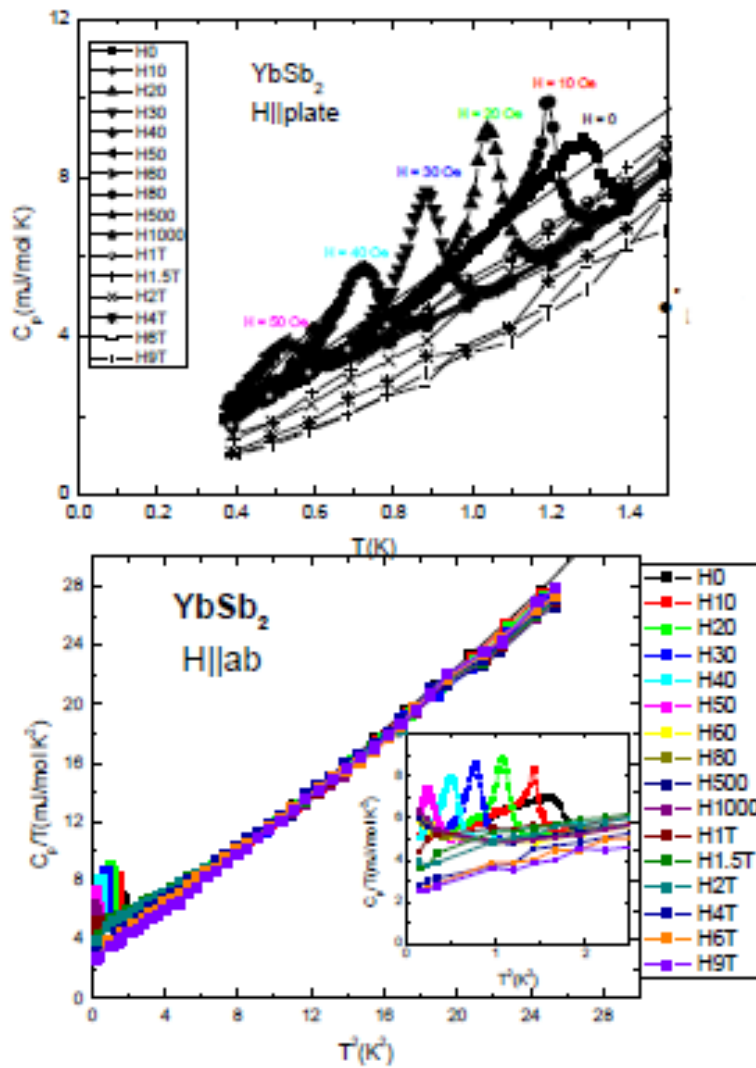
Specific heat



- Superconducting transition at $T_c = 1.4$ K
- Transition moves down in temperature with applied field

...and the ugly

Specific heat



- Superconducting transition at $T_c = 1.4$ K
- Transition moves down in temperature with applied field

C/T for YbSb_2

$\gamma \sim 4$ mJ/mol K²

Morosan et al. (unpublished)

Other important details

- Have backup of your presentation
- If possible check out the room and AV equipment before talk
- Face the audience as much as possible
- Don't read off slides
- Beware of "wandering laser pointer"

"Hard" questions

- I don't think you've accounted for the research of Barnes and Bailey. Aren't you familiar with their model? I think it invalidates your main hypothesis.
- You acknowledge all these collaborators –what exactly did you do?
- This is a project you started working on as a postdoc in Prof. X's group. Will you be continuing this work? How will your work be distinct from that of your postdoc supervisor?
- (To the candidate) Well you didn't even account for phenomena x. (Aside to the audience) How can all this research be valid if she didn't account for x?
- It looks like you've done some interesting modeling. Is there an application of this work?
- What a wonderful little application. Is there any theoretical support?

"Harder" questions

- I believe a simple non linear equation explains all your data. Why have you wasted your time on such a complex model?
- How does this differ from the basic model that we teach in sophomore transport?
- Those results are clearly unattainable. You must have falsified your data.
- You've done some interesting work, but I don't see how it could be considered engineering. Why do you think you are qualified to teach

engineering?

- Your work appears to be a complete replication of Fujimoto's work.
Just what is really new here?

Good luck!

Fear of Failure, Fear of Success

Keynote presentation presented by Mikki Hebl at the 2010 NSF ADVANCE Workshop: Negotiating the Ideal Faculty Position, A Workshop for Underrepresented PhDs and Postdocs in Science, Engineering and Psychology September 19-21, 2010

<http://www.phds.org/>

Career Information (591)

Required Reading (158)

Finding Employment (908)

The Big Picture (464)

Graduate School (573)

Postdocs (427)

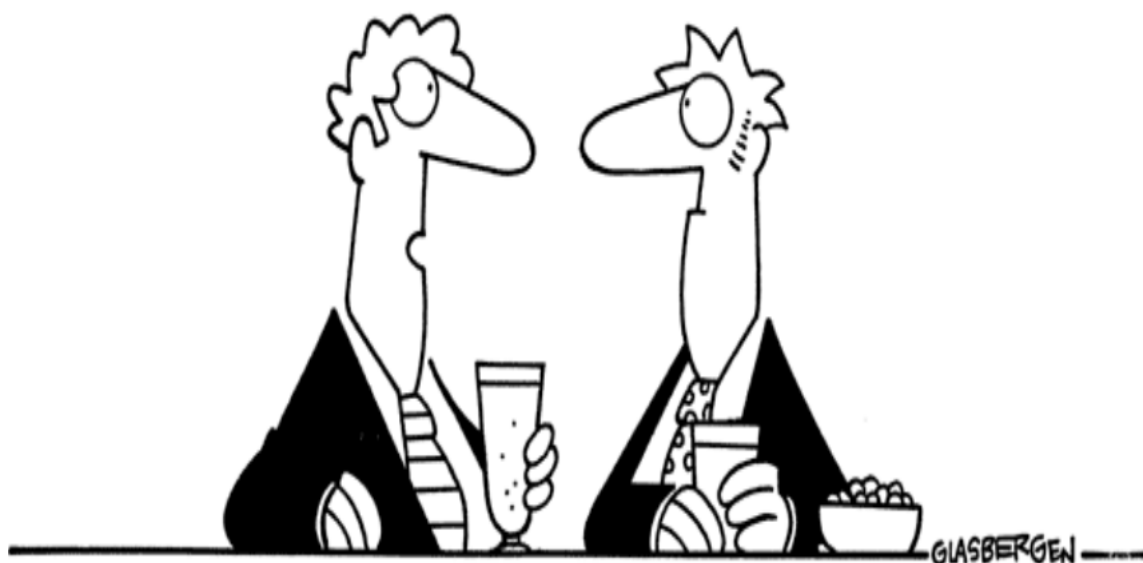
Undergraduate Research (24)

Suggested Reading

Silvia, P. (2007). *How to Write a lot: A Practical Guide to Productive Academic Writing*. American Psychological Association

Darley, J. M., Zanna, M. P., & Roediger III, H. L. (2003). *The compleat academic: A career guide*. 2nd edition. Washington, D.C.: American Psychological Association.

Psyc 660: Professional Development - “survival skills” are discussed, including the ability to communicate effectively, to find and keep a job, to secure funding, publish, teach, and behave responsibly.



**"I've tried to be passionate about my career,
but my career just wants to be good friends."**

Why I love my job in academia



- Inquiry
- Mentoring Students
- Bright Colleagues
- Beautiful Workplace
- Eventual Job Security
- Absence of Monotony
- Flexibility

Top Two Reasons that Other People Love Academia



Vacations

Summer

Will you also love academia?

- What are your fears and concerns about this career?
- Please indicate on the note cards 2-3 things that you fear about a career in academia.

Potential Fears

- Getting a Job; Getting the “Right” Job
- “Publish or Perish” Pressures; Grants
- Tenure Pressures; Ambiguities
- New Ideas; Null Effects
- Balancing Work and Family
- Deciding if/when to Have Children
- Tokenism, Discrimination, Lack of Female Role Models



What do women scientists say about fear?



""[W]e must believe in ourselves or no one else will believe in us; we must match our aspirations with the competence, courage and determination to succeed. "" ""The world cannot afford the loss of the talents of half its people if we are to solve the many problems that beset us.""

- Rosalyn Sussman Yalow (1921 -) U.S. Medical Physicist 2nd woman to win Nobel Prize in Medicine, '77



"“Nothing in life is to be feared. It is only to be understood.” " "“Life is not easy for any of us. But what of that? We must have perseverance and above all confidence in ourselves. We must believe that we are gifted for something and that this thing must be attained.”"

- Marie Curie (1867-1934) Polish-French chemist Won Nobel Prize twice



"“If you know you are on the right track, if you have this inner knowledge, then nobody can turn you off. . . no matter what they say.”"

- Barbara McClintock (1902-1992) U.S. Scientist Discovered “Jumping genes” Nobel Prize winner ‘83



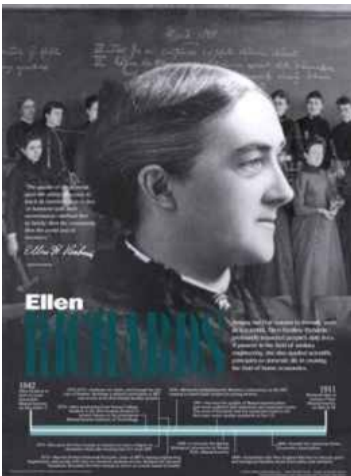
"“A ship in port is safe, but that's not what ships are built for.”"

Grace Murray Hopper 1906-1992 U.S. Military Leader Mathematician
Educator Co-inventor of COBOL language Coined the term computer
“bug”



"“When we are chafed and fretted by small cares, a look at the stars will show us the littleness of our own interests.””

Maria Mitchell 1818-1889 U.S. Astronomer, Educator Discovered a comet in 1847 1st woman elected to American Academy of Arts and Sciences



"They are so afraid we shall break down, and you know the reputation of the college is at stake, for the question is, can girls get a college degree without injuring their health."

Ellen Swallow Richards (1842-1911) First woman to earn a B.A. in chemistry.



"“Those who contemplate the beauty of the earth find reserves of strength that will endure as long as life lasts.”"

- Rachel Carson (1907-1964) U.S. Biologist

Understanding the Promotion & Tenure Process

Panel discussion presented by Jennifer West and Kathy Matthews at the 2010 NSF ADVANCE Workshop: Negotiating the Ideal Faculty Position, A Workshop for Underrepresented PhDs and Postdocs in Science, Engineering and Psychology September 19-21, 2010

Goals

- Institution
 - Tenure is a life-long commitment by the university to you
 - Successful faculty – innovators, leaders, producers
 - Research objectives in line with institutional directions
- You
 - Faculty position that meets your own research and career objectives
 - Member of functional, innovative and forward-looking department and institution
 - Security offered by tenure

What can I do now?

- Think about your steps all along the way
 - Consistently evaluate your own progress
 - Goals
 - Mechanisms to get there
 - Ways to learn from others and engage them
 - Keep data on all your activities
 - Ask for feedback
 - Grant writing
 - Papers

- Teaching
- Research program organization and development

This process is the accumulation of years of effort
 THINK AHEAD!!

Understand the General Process

- Learn about the promotion and tenure process at your institution
 - *Ask about the process at every stage if you have questions*
- Request a copy of the policy
 - *Be sure when you are interviewing that the policy is consistent with your personal goals*
- Understand the balance of teaching, research, and service that the institution AND the department will expect
- Understand the audience(s) for the materials

General Process — The Dossier

- Dossier
 - Summary of your independent career at institution
 - Information on all aspects of your career
 - Research summary (publications, grants, citations, awards)
 - Teaching summary (courses, evaluations, awards)
 - Service summary (activities, awards)
 - Inside reviews/letters
 - Outside letters****
 - Writers identified by department
 - Also usually writers identified by individual

Dossier Components

- Summary of career
 - Education
 - Honors
 - Teaching/advising/mentoring
 - Citations
 - Grants
 - Publications
 - Research/teaching summary written by candidate
- Outside letters

What Happens After Dossier Is Prepared?

- Department review
 - Tenured faculty generally involved in decision to recommend or deny tenure
 - Department chair writes letter
 - Some schools have subcommittee
- School review
 - Often school-level committee reviews and makes recommendation to dean
 - Dean makes recommendation
- Promotion/Tenure Committee (Provost)
 - Makes recommendation to President
- President sometimes makes final decision

What Happens After Dossier Is Prepared?

- Department review
- School review
- Promotion/Tenure Committee (Provost)
- President may make final decision
- Multiple levels of review — no one person makes the decision! *Many* voices are part of the process.

General Process

- Understand the timing of preparing the dossier, what you should submit and when
 - Think carefully about names for Outside Letters
- Understand the process completely
- Don't wait until the last minute to prepare your materials
 - Think about your research/teaching summary
 - Ensure that your papers are submitted in a timely way
- Ask QUESTIONS if you do not understand

General Process

- Outside letters
 - Highly influential in decision process
 - May have opportunity to suggest names
 - Develop relationships - create a network MARKET yourself!
 - Post-decision: Ask about possibility for feedback from the letters (can be useful)

Anticipate whom you would want to write letters and get to know those individuals

Factors Considered

- Research
- Teaching
- Service

These factors combine to reach a decision, BUT the specific combination varies widely across institutions

Research

Publications

- Used to assess your productivity
 - Numbers vary widely among disciplines
 - Type of publications expected also vary widely
 - Different expectations at different promotion points
- Used to assess the quality of work produced
 - Citations, H-factor, Impact on the field

Research

Publications

- Demonstrate your contributions
- Provide evidence of your unique contributions, particularly in collaborative/cross-disciplinary activities
 - Issues of collaborators
 - How many? How much of your time?
 - Issues of cross-disciplinarity

- Why did this matter? What did you and your discipline contribute?

Research

- Grants — important national review of work
 - Demonstrate ability to secure funding for research
- Presentations
 - Invitations reflect status in the field
- Visibility/Engagement/Focus
 - Present at multiple conferences
 - Engage the leaders at those conferences
 - Invite leaders to your institution via department events
 - Reflect on level of focus in work and, if broad, engage multiple communities

Teaching

- Effectiveness
 - Often evaluated by students
 - Ask assigned or selected mentor to provide review
- Innovation
 - Think about ways to do it better/more effectively
 - Engage students
- Range/breadth
 - Assignments may be focused or broad
 - Be prepared to teach beyond your comfort zone

- Enthusiasm
 - Convey why you love what you do
 - Occasionally volunteer for something extra

Teaching

- Develop a portfolio of your teaching
 - Syllabi
 - Handouts, other notes on courses developed
 - Problem sets
 - Other written materials
 - Computer-based materials, notes on courseware
 - Copies of software developed for courses
 - Examinations
 - Copies of graded papers where there is a significant writing component
 - Evaluation by a colleague
 - Student evaluations

Service

- Department
 - Help your department accomplish the faculty's goals
- University
 - Engage in the broad community, but *wisely* — most P/T committees are broad
- National Organizations
 - Choose wisely for visibility with minimum time
- Civic/K12/Outreach Opportunities

- Choose wisely, but make a difference

Keeping a Complete Record

Keep your CV up to date

- Include students mentored at all levels (primary and secondary mentoring)
 - Undergraduates
 - Graduate Students
 - Post-doctoral Associates
- Include advising responsibilities at all levels
- Refereed publications
 - Some institutions request an evaluation of % effort on each
 - Citations — check your “h-factor”
- Abstracts / Conference Proceedings/Presentations
 - Seminars/Workshops/Panels/etc.
 - Posters
 - Invited talks at meetings
- Service within university, in community, at (inter)national level

P/T versus Performance Reviews

- Ask your institution about frequency and nature of performance reviews
 - Can be very helpful in guiding activities
 - Opportunity for mid-term feedback
 - Provide an internal view of accomplishments
 - Some may have external letters
 - Dossier can be similar to promotion dossier

Are there answers to my questions?

- How many publications do I need?
- How much grant funding?
- How many graduate students? Postdocs?
- How many committees? Which ones?
- How good must my teaching be? Does it matter?
- How do I know if I'm doing enough?

There are no “right” answers to these questions, because the process is a composite of all of these and varies from place to place:

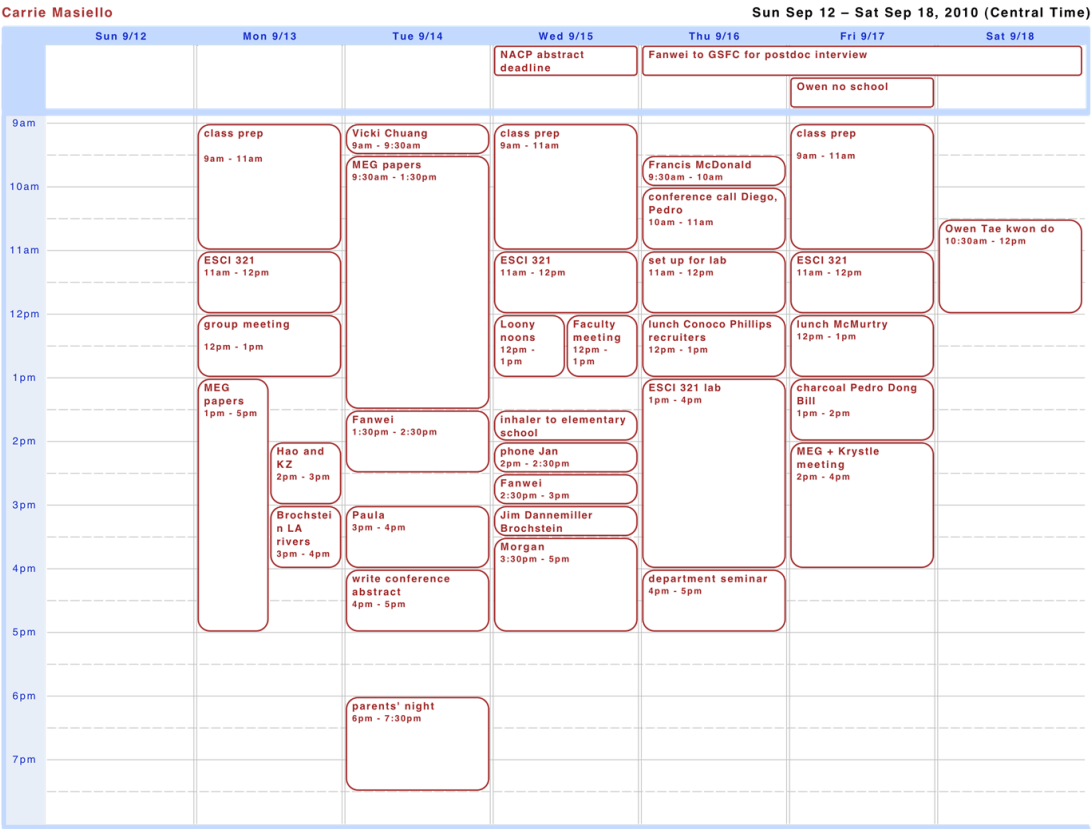
FIND OUT WHAT YOU CAN ABOUT YOUR INSTITUTION - ASK QUESTIONS!!!

Questions?

Ask many, ask often....

Balancing work and life
Panel discussion presented by Carrie Masiello, Joff Silberg, Hadley Wickham, and Junghae Suh at the 2010 NSF ADVANCE Workshop: Negotiating the Ideal Faculty Position, A Workshop for Underrepresented PhDs and Postdocs in Science, Engineering and Psychology September 19-21, 2010

Carrie’s week

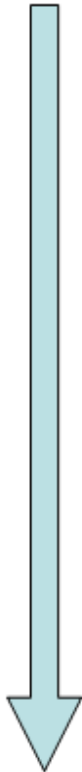


Junghae’s day

Today	Friday, Sep 17, 2010	Print Refresh	Day	Week	Month	7 Days	Agenda
	Friday 9/17						
	<input type="checkbox"/> abet mock review book bmes travel ☞ book nsf travel ☞ look over nsf grants re-email request for seminar speakers						
7am							
8am	8 - 9 abet mtg						
9am	9 - read JC article, run to starbucks 9:30 - joff - meet with collaborator ☞						
10am	10 - look up & print grants to review for NSF ☞ 10:30 - Chris - meet with grad student ☞ ☞						
11am	11 - read JC article 11:30 - look up DOD grant program announcements						
12pm	12p - lunch, respond to emails ☞ 12:30p - check student's record to see if I should recruit... ☞						
1pm	1p - look up funded grants on chitosan - ponder what grant to write next 1:30p - ayesha - meet with grad student ☞ ☞						
2pm	2p - 3p ☞ ☞ lab mtg						
3pm	3p - Meeting to discuss progress on review paper ☞ 3:30p - justin - meet with grad student ☞						
4pm	4p - fang - meet with postdoc to discuss blot results ☞ 4:30p - get ready for NIFP						
5pm	5p - 6p Meet with other profs to discuss syn bio initiative (706)						
6pm							
7pm	6:30p - 8:30p baby duty, eat dinner, debrief husband on day, send out couple emails that I forgot about						
8pm							
9pm	8:30p - 10p finally relax and watch food network or glee reruns						

Joff's day

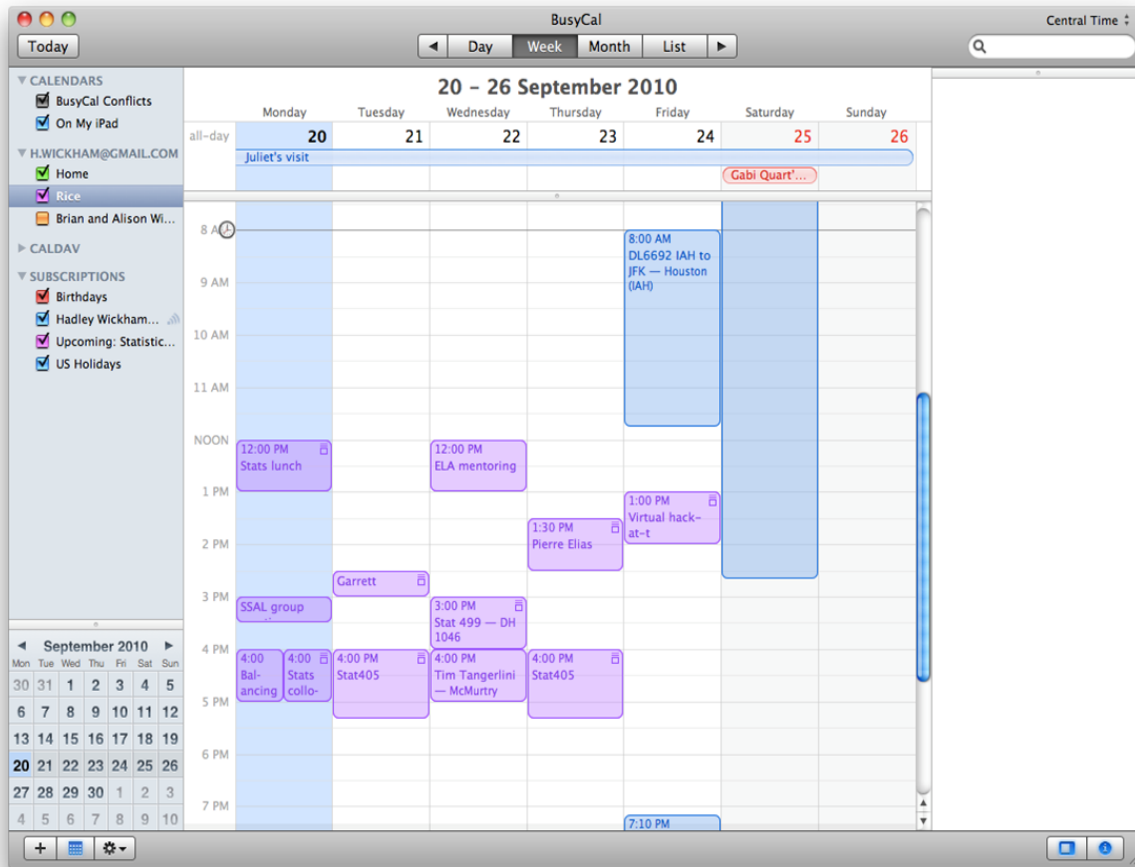
8:00 am



- make an outline of essential things to do today
- scarf down breakfast while checking email
- meet with head of technology transfer across campus to discuss MTA issues
- prepare handouts for class that meets at noon
- meet with Bioc583 graduate student about class presentation
- **talk to technician about unexpected freezer problems (unexpected!)**
- do some grading for Bioc583 homework
- **have unscheduled meeting with another assistant professor (unexpected!)**
- undergraduate class from 12-1pm
- race over to RMC, get caffeine and sandwich to go
- scarf down a quick lunch
- go over manuscript being presented in afternoon class
- read articles related to NASA grant being drafted
- try to respond to emails received throughout day
- graduate class at 2:30-4:00pm
- **reassure a graduate student that they are doing fine (unexpected!)**
- do lab lap, chat with each graduate student to find out how things are going
- work on NASA grant
- talk with collaborator to figure out how to close on revisions of a paper
- **figure out how to spend grant \$ that is about to expire (unexpected!)**
- **deal with travel reimbursement paperwork (unexpected!)**
- work on NASA grant some more

5:30 pm

Hadley's week



Think about how your ideal time distribution differs from how you really spend your time

	Ideal (hrs)	Real (hrs)
Lab Work (experiments)	15	???
Reading & writing (grants/papers/editing)	20	???

Teaching (preparation/lecture/grading)	10	???
Staff Management (guidance/support/etc)	5	???
Service activities (committees/meetings/reviewing)	2	???
Care giving (partner/child/pets/parents)	23	???
Self care (boot up/eating/exercise/cleaning)	5	???
Transportation	2	???

If your ideal and real time use are different, think about strategies to protect your time

Time for Self:

- Make time for other interests (sports, music, reading, etc.)
 - Stay healthy (eat right, exercise)
- Spend time with friends and family
- Make commitments

Lose the Guilt:

- Understand limitations, be realistic, expect imperfection
- Don't compare yourself to others
- Accept your work style (regular 8-5er or work binger)

Saying “No”:

- Never commit immediately. Ask for time to consider.
- Is the work something important? Something you care about?

- Something that will help you in the future?
- Saying “No” enables you to say “Yes” in the future.
- When “yes”, then follow through with time, energy, and conviction.

There are numerous strategies to protect your time!

- control your vortex of activity:
 - it feels a lot different when you decide what’s important.
 - don’t let others’ emergencies determine your day.
- be mindful of how much service you sign up for
 - easy to sign up for too much
- actively limit your teaching preparation time. You can’t do everything perfectly
- you have the right to say “no” to many things; don’t hesitate
- limit your review requests, panels, and talks
 - choose strategically
- while service matters for tenure, you must publish solid research
 - conserve enough energies for this

Additional considerations when thinking about work-life balance

Being Present

Enjoy the moments, appreciate the “now”.

Creating a New Life

Become a social organizer! It’s easy to gather a few people for a happy hour out on the town, a game night at your place, or a special TV event (the debates, TV show finale, etc.).

Change of Pace

Find alternate places to work besides your home, office, and lab. Look for internet cafes or a park with great picnic tables, etc.

Educate Others

Educate family, friends, significant others, and students about your job and your work style. Some may not entirely understand academia or the tenure process or how you in particular are working toward your goals. These people play a very important role in balancing your life so it really helps to have them fully on board!

No one is perfect!

- At some point you will feel
 - Incompetent (as a PI and/or as a spouse/parent)
 - Disorganized
 - Overwhelmed
 - Unable to cope
- You will wonder if this is all worth it
- You will wonder if you are alone
 - YOU'RE NOT!!
- Take time to regroup, talk with people you trust
 - Regain that balance
 - Focus time on what you enjoy!

Work – Life Balance

Handout accompanying the panel discussion by Carrie Masiello, Joff Silberg, Hadley Wickham, and Junghae Suh at the 2010 NSF ADVANCE Workshop: Negotiating the Ideal Faculty Position, A Workshop for Underrepresented PhDs and Postdocs in Science, Engineering and Psychology September 19-21, 2010

A career in academia can take all your time. You are never really “done”.

It is easy, therefore, to fall into the habit of constant work. You must choose how much time you devote to work and how much you save for other activities/self/people.

Time for Self:

- Make time for other interests (sports, music, reading, etc.)
 - Stay healthy (eat right, exercise)
- Spend time with friends and family
- Make commitments

Lose the Guilt:

- Understand limitations, be realistic, expect imperfection
- Don't compare yourself to others
- Accept your work style (regular 8-5er or 3-day post-procrastination work binger)

Saying “No”:

- Never commit immediately. Ask for time to consider.
- Is the work something important? Something you care about?
 - Something that will help you in the future?
- Saying “No” enables you to say “Yes” in the future.
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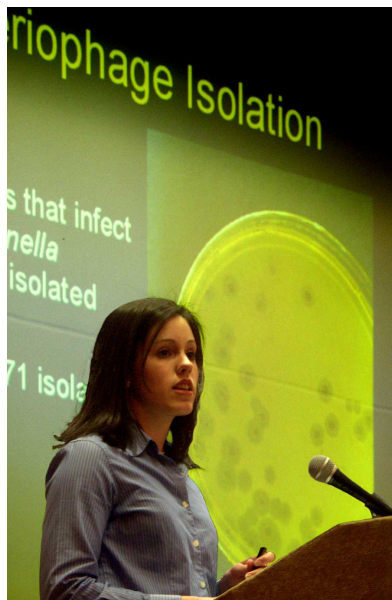
Educate family, friends, significant others, and students about your job and your work style. Some may not entirely understand academia or the tenure process or how you in particular are working toward your goals. These people play a very important role in balancing your life so it really helps to have them fully on board!

Technical Presentations

Panel discussion presented by Tracy Voltz at the 2010 NSF ADVANCE Workshop: Negotiating the Ideal Faculty Position, A Workshop for Underrepresented PhDs and Postdocs in Science, Engineering and Psychology
September 19-21, 2010

High Impact Presenters

- Size up the situation
- Organize an argument
- Convey confidence
- Integrate visuals
- Handle questions



http://www.uaex.edu/Other_Areas/news/_archives/April2003/Stacy15.gif

Analyze Audience

- Who is your audience?
 - Why are they interested?
 - How much do they know?
 - What criteria do they use to make decisions?
 - How will they benefit?
 - What are their concerns?



<http://www.apple.com/jobs/us/corporate.html#retailcorp>

Tailor Message to Audience

Non-Experts	<ul style="list-style-type: none">• Make it interesting• Provide background• Define terms• Distinguish between fact and opinion• Use examples, analogies, visuals
Experts	<ul style="list-style-type: none">• State how and why• Present limited background info• Use language of discipline• State assumptions and conclusions• Cite references

From: Barrett, Deborah (2007). *Leadership Communication*.



Mixed Audience Strategy

- Define key terms
- Signal section headings
- Support points with specific examples
- Use analogies
- Mention in-depth points periodically
- Reiterate your main points as you proceed
- Avoid jargon
- End with a general summary

Academic Job Talk

1. What problem are you investigating?
2. Why is it important?
3. How does your work fit into the context of your field?
4. What's your approach?
5. **What did you find that was significant?**
6. What are the implications of your findings?
7. How is your work novel?

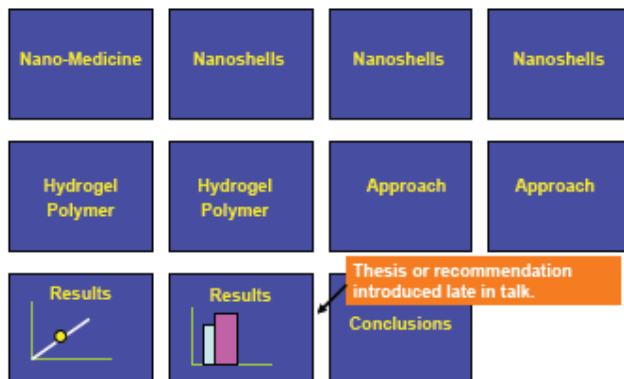
Typical but Difficult

- Chronological narratives
- Inductive organization

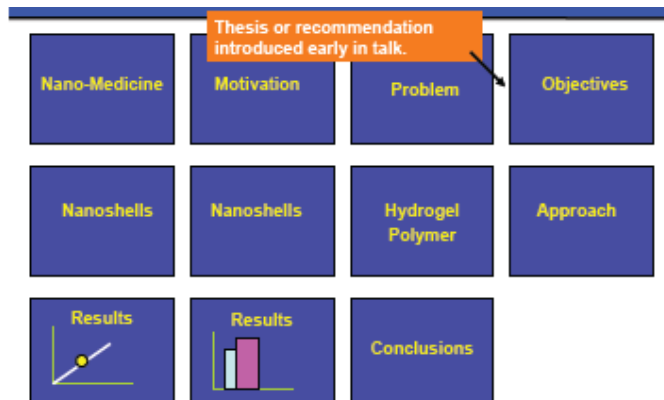


<http://www.uni-koblenz.de/~vladimir/breviary/dilbert-powerpoint.gif>

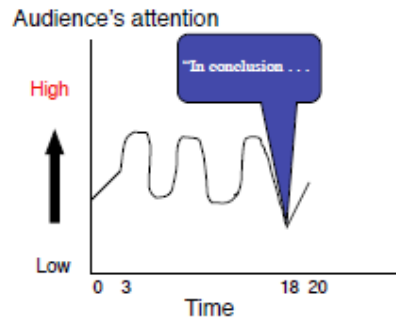
Inductive Example



Deductive Example



The Challenge



Start Strong

Introduction

- Motivate interest
- State key point(s)
- Preview topics
- Establish credibility
- Memorize opening

-
- No apologies
 - No reintroduction
 - No "Today I'm gonna talk about . . ."



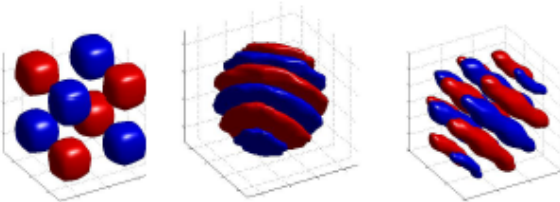
Hans Rosling, TED conference 2006
http://images.ted.com/images/ted/131332_389x292.jpg

Wolfe's Strong Start



http://video.ted.com/talks/podcast/NathanWolfe_2009_480.mp4

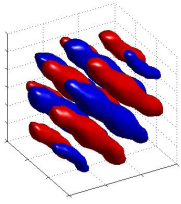
Directional Hypercomplex Wavelets for Multi-dimensional Signal Analysis and Processing



Candidate's name

Directional Hypercomplex Wavelets for Multi-dimensional Signal Analysis and Processing





Candidate's name

Electrical and Computer Engineering

Sept. 20, 2010

Outline

- Introduction
- Methods and applications
- Results
- Conclusions

Outline

- Diagnosis of air quality priorities
- Primary and secondary pollutants
- High-order direct sensitivity analysis: Methods and applications
- Uncertainty analysis
- Optimization
- Integrated air quality management: Experiences in Georgia
 - Challenges, priorities, planning
- Vision for future research

Outline

- Diagnosis of air quality priorities
- High-order direct sensitivity analysis: Methods and applications
- Integrated air quality management: Experiences in Georgia
- Vision for future research

End Strong



Conclusion

- Memorize
- Send cue
- Restate & summarize
- Spell out implications

-
- No “That’s it.”
 - No exaggerating
 - No ?s slide

Questions????



Conclusion

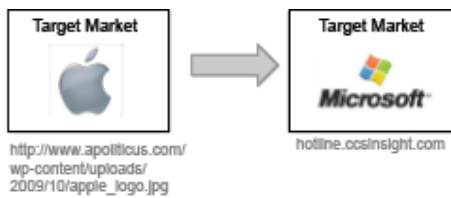
- The network is capable of identifying the behavior of the family curve.
- The amplitude and frequency values obtained with the ANN are close to those obtained by means of the 2-DOF model.
- The accuracy in the results obtained can be improved if a greater number of samples is used.
- Other combination of network parameters could allow getting better results.
- The reduction in computation time is drastically reduced when using the ANN.
- Identifies behavior of the family curve
- Closely approximates amplitude and frequency of 2-DOF model
- Drastically reduces computation time

Transitions

- Create coherence
- Make intuitive connections explicit
- Weak verbal cues
 - “And another thing”
 - “So”
 - “Next”
- Strong verbal cues
 - Sequence

- “First”
- Contrast
 - “However”
 - “On the other hand”
- Causality
 - “Therefore”
 - “Consequently”

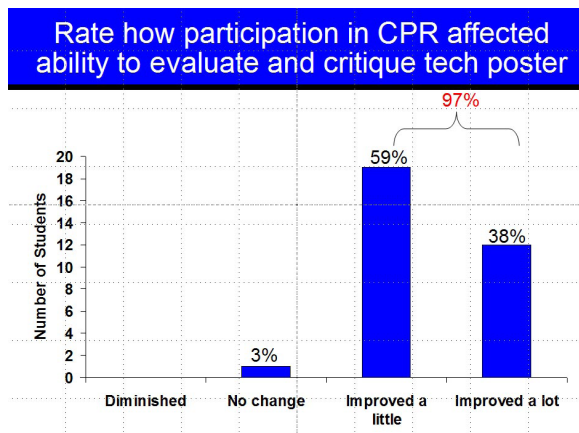
Sample Transitions



- A. “So let’s jump into parts I thought were interesting.”
- B. “Next I’m gonna talk about Microsoft.”
- C. “In contrast to Apple’s focus on ordinary consumers, Microsoft targets business users.”

Presenting Data

- Relevant results that support key points
- BIG picture little picture
- 4-step explanation:
 - Question
 - Describe
 - Report result
 - Interpret result



Leadership Presence



http://www.zimbio.com/pictures/69GCBovJrmt/Pres+Barack+Obama+Speaks+UN+Sanctions+Vote/_CIB5q-OzhK/Barack+Obama

- Enter with authority
- Focus your energy
- Pause before starting
- Establish eye contact
- Limit movement
- Speak confidently

Convey Confidence





http://econ.duke.edu/uploads/media_items/jason-blevins-2009-10-job-market-candidate.240.360.s.jpg

- Stance
- Gestures
- Eye contact
- Voice quality

Stance and Posture



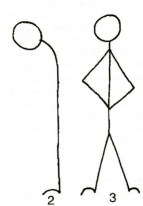
<http://images.betanews.com/media/1595.jpg>
g



<http://pickalaptop.com/wp-content/uploads/2008/09/stevejobsmacbookair1.jpg>
g

Stance and Posture

- Worst Practices
 - Block screen
 - Stomp feet
 - Cross feet
 - Rock, sway, pace
 - Slouch
 - Lean
- Best Practices
 - Chin up
 - Feet under hips
 - Shoulders relaxed
 - Weight distributed
 - Knees slightly bent



Gestures to Avoid

- Fidgeting

- Fingers
- Pen or laser pointer
- Pockets
- Hair
- Hands on hips
- Crossing arms
- Gripping podium
- Clasping hands
- Fig leaf
- Behind back



<http://organizations.nlamerica.com/dublinexchange/images/2003%202004%20images/NEW%203.jpg>

Effective Gestures





- Power gestures
- Concept gestures
- Process gestures
- Position
- Scale

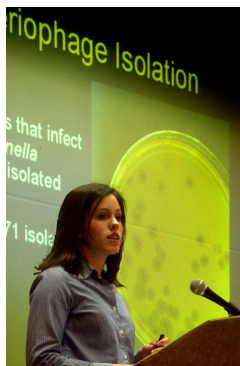
Practice Gestures

- “An atom consists of a *dense, central nucleus surrounded by a cloud of electrons.*”
- “A *low* pH indicates a *high* concentration of hydronium ions.”
- “The particles must be *dispersed* evenly in the fluid.”
- “It’s about the size of a *quarter.*”
- That is *unacceptable!*

Eye Contact

- Worst practices
 - Stare at screen
 - Glance at floor or ceiling
 - Read slides or notes
- Best practices
 - Direct

- Sustained
- Distributed



http://www.uaex.edu/Other_Areas/news/archives/April2003/Stacy15.gif

Voice Quality

- Volume
- Pacing
- Inflection
- Articulation
- Fillers



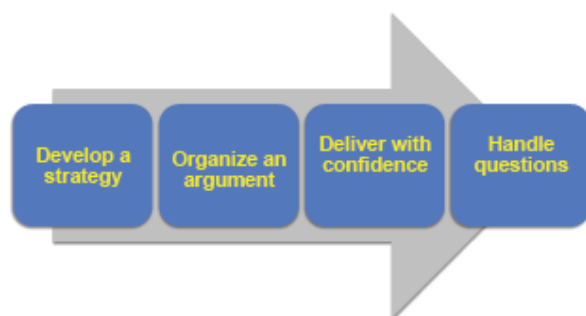
http://docuguy.files.wordpress.com/2009/03/marissa_mayer_google_io-5_350x467.jpg

Handling Questions

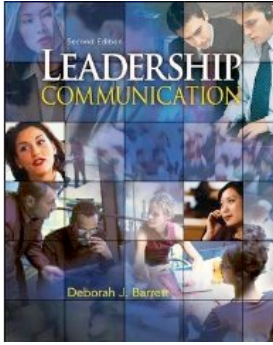


<http://www.zimbio.com/pictures/mxnYaVFjI2u/Google+Founders+Launch+Google+Transit+Tool/bxvx-csDkLx/Sergey+Brin>

Summary



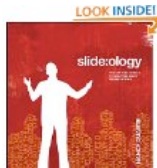
References



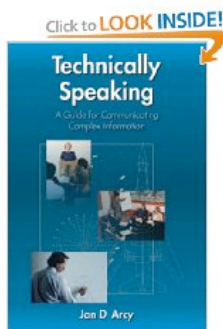
Barrett, Deborah, Leadership Communication. McGraw-Hill, 2007.



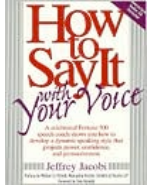
Materials developed by Cain Project in Engineering and Professional Communication, www.cnx.org



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D'Arcy, Jan. Technically Speaking. Columbus: Battelle Press, 1998.



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Repository of interesting talks: Hans Rosling “The Best Stats You’ve Ever Seen”

http://www.ted.com/talks/hans_rosling_shows_the_best_stats_you_ve_ever_seen.html

Image References

- Eric Schmidt

[http://images.google.com/imgres?](http://images.google.com/imgres?imgurl=http://www.mediabistro.com/baynewser/original/Eri%2520Schmidt.jpg&imgrefurl=http://www.mediabistro.com/baynewser/google_stuffgoogle_ceo_defends_company_against_wall_street_journal_in_pages_of_wall_street_journal_144817.asp&usg=__3mt9PhrO_oWQ7ikSSioN2WzemCc=&h=334&w=500&sz=80&hl=en&start=16&um=1&tbnid=Uo8sDZW4wbUjM:&tbnh=87&tbnw=130&prev=/images%3Fq%3Deric%2Bschmidt%26hl%3Den%26client%3Dfirefox-a%26rls%3Dorg.mozilla:en-US:official%26sa%3DN%26um%3D1)

[imgurl=http://www.mediabistro.com/baynewser/original/Eri%2520Schmidt.jpg&imgrefurl=http://www.mediabistro.com/baynewser/google_stuffgoogle_ceo_defends_company_against_wall_street_journal_in_pages_of_wall_street_journal_144817.asp&usg=__3mt9PhrO_oWQ7ikSSioN2WzemCc=&h=334&w=500&sz=80&hl=en&start=16&um=1&tbnid=Uo8sDZW4wbUjM:&tbnh=87&tbnw=130&prev=/images%3Fq%3Deric%2Bschmidt%26hl%3Den%26client%3Dfirefox-a%26rls%3Dorg.mozilla:en-US:official%26sa%3DN%26um%3D1](http://www.mediabistro.com/baynewser/original/Eri%2520Schmidt.jpg&imgrefurl=http://www.mediabistro.com/baynewser/google_stuffgoogle_ceo_defends_company_against_wall_street_journal_in_pages_of_wall_street_journal_144817.asp&usg=__3mt9PhrO_oWQ7ikSSioN2WzemCc=&h=334&w=500&sz=80&hl=en&start=16&um=1&tbnid=Uo8sDZW4wbUjM:&tbnh=87&tbnw=130&prev=/images%3Fq%3Deric%2Bschmidt%26hl%3Den%26client%3Dfirefox-a%26rls%3Dorg.mozilla:en-US:official%26sa%3DN%26um%3D1)

- Steve Jobs

<http://www.zimbio.com/pictures/YoOJsM6YYVJ/Apple+Introduces+New+Products/QHpgr5vxIZ/Steve+Jobs>

- Bill Gates (Jeff J Mitchell / Getty Images)

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Expectations, Guidelines, and Keys to Success for PhD Students in the Padgett Research Group

The handout accompanying the panel discussion presented by Jamie Padgett, Danijela Damjanovic, and Tatiana Schnurr at the 2010 NSF ADVANCE Workshop: Negotiating the Ideal Faculty Position, A Workshop for Underrepresented PhDs and Postdocs in Science, Engineering and Psychology September 19-21, 2010

First, let me welcome you to Rice University, the Ph.D. program in Civil Engineering, and the Padgett Research Group! In the coming years your program will afford the opportunity to acquire great technical skills and knowledge in civil engineering, to focus and dive deeply in your research field, and to establish yourself as a promising engineer and scholar. While you can expect to work hard, graduate school is also a period of unique flexibility, intellectual and personal growth; so I encourage you to embrace this opportunity and take advantage of the great opportunities that Rice and Houston have to offer. This includes a scholarly atmosphere, outstanding faculty, talented peers, a vibrant campus, a metropolitan city, a diversity of cultural activities, among many more! Amidst this setting, however, is the obvious importance of maintaining focus on your primary objective and continued progress towards completing your degree in a timely fashion.

This document is intended to convey my expectations for you as a Ph.D. student, and also to give you an idea of what you can expect as a member of the Padgett research group. These guidelines will help to ensure the success of our research group and help you to make the most of your program. It is an evolving document that will be adapted as our group grows.

Schedule

Keep in mind that the Ph.D. program is a multi-year process requiring dedication, perseverance, and endurance. So do pace yourself for continued progress (and energy!) throughout the program.

As for a daily schedule, I will not dictate to you an exact time of arrival or departure, as it is important that you find the schedule that works best for your productivity. However, I do expect that you will spend at least a

regular work week/hours on campus in the office or lab. This will not only help to ensure continued progress, but facilitate important interactive and productive time with me, your peers, other faculty, and our research group. I may ask for a projected schedule if need be. However, I am most interested in tracking your regular and continued research progress, and offering input and constructive feedback to ensure success.

As a Ph.D. student and research assistant, periods such as spring break are not automatic holidays from graduate research, and are often very productive times. Please schedule and consult with me regarding any plans for extended travel including during these periods. As a rough guideline, please plan to take no more than approximately three weeks per year. Keep in mind that the summer is intended to be one of our most productive times as a research group. We can further discuss amount and duration of leave individually and on a rolling basis.

Coursework

Your coursework is both an opportunity to further your mastery of civil engineering, and to enhance your discipline specific knowledge to enable you to successfully conduct your research. This will result in the need to take courses both within the civil engineering department, as well as take courses from other departments, such as statistics, computational and applied mathematics, mechanical engineering, among others. It is your responsibility to stay abreast of the posted graduate requirements for the Civil and Environmental Ph.D. program, which outline a list of required courses, minimum grade requirements, number of courses, etc. Please refer to our department website for updated versions of these requirements. However, I emphasize that these numbers are indeed minimum and both myself and your thesis committee will provide feedback on additional suggestions, needs and expectations for courses. I expect the minimum grade requirement should not be an issue, as you should excel in your courses as a Ph.D. student. Moreover, to ensure high quality and competency, you should expect to exceed the minimum course hour requirement by the time you graduate.

As a rough guide, in year 1, you should plan to take approximately 3 classes per semester. My expectation is that students in my group should be prepared to tackle both this course load and simultaneously begin your research foundations upon entering the program. Hence your focus should be on excelling in your courses, preparing for your preliminary exam, and leaving time for regular progress on your research. This will be further addressed below. It is important that you take courses that provide a broad foundation in civil engineering from various faculty members in our department who will be administering your preliminary exam. As an aside the related areas of your exam include advanced structural analysis and structural mechanics; structural dynamics; applied mathematics; and a specialty area. In this first year, it will also be important to take courses that provide a foundation for your research and for future courses you will be taking. Hence I urge you to also consider taking a very select couple of courses in CAAM, STATS, MECH, etc. in your first year.

In subsequent years, though your research will be your top priority, courses will be important to enhance your base in critical areas of civil engineering and develop knowledge and skills to conduct your research. Moreover, they often provide a fun and nice change of pace! You should plan to take roughly 1-2 classes per semester. Students that have entered the program directly from a B.S. may expect to maintain the 3 class per semester load for a longer period. My expectation is that prior to graduation any student in my group should complete advanced classes in such fundamental structural engineering topics as graduate level courses in mechanics, structural dynamics, steel design, concrete design, bridge engineering, structural and/or systems reliability, random vibrations, finite elements, numerical methods, among others. Core courses for most students in the group will also include courses in probability and statistics, risk assessment, and related topics. Research focuses will dictate whether advanced topics in fluid dynamics, materials science, design of statistical experiments, or even sustainable development or engineering economics among other topics, are necessary requirements. This will vary on an individual basis and also depend upon background and recommendations from myself, your examining committee, and thesis committee. You are encouraged to explore your options and consult with other instructors and students regarding course content, prerequisites, etc. Rice is full of talented professors and

renowned experts in a range of disciplines who offer outstanding courses for your benefit. Take advantage!

Finally, it is a requirement to take and attend the departmental seminar every semester as a graduate student in our department. If you have needs to enhance oral or written communication skills in English, you should find ways to strengthen these. This includes thesis or technical writing courses, evening or leisure classes at Rice, etc. Most students in my group will be asked to explore such supplemental courses as Jan Hewitt's technical writing course to enhance your paper and thesis writing.

Research

Research is the core of the Ph.D. experience, culminating in a dissertation that should represent an original and substantive contribution to your field. The following tips should put you on a path toward successful graduate research and outline some of my expectations for you:

- **Publications** – Peer reviewed publications are the primary method of disseminating the results of our research, and quite frankly are a common metric of progress and success in academia. Quality publications are your principal means of establishing yourself and your contributions as an engineer, researcher, and scholar. You can expect that this is not only an important expectation for successful completion of your program and progress in my research group, but that a strong track record of publications will be essential in future job searches. Hence as a rough guideline I expect you to publish or submit at least 3-5 high quality papers in peer reviewed journals prior to the scheduling of your defense. You will be expected to regularly write papers for relevant conferences to help form the foundation for effective communication of your work and facilitate expanded journal publications.
- **Dissertation** – The dissertation is the legacy that you leave upon completion of your Ph.D. program. It should follow very smoothly upon completion of your journal papers. Many of them will comprise the core chapters of your dissertation. However, it is noted that you can expect to conduct research and potentially publish papers that do not

constitute core dissertation research. This will provide some varied exposure, diversity of experience, and the opportunity to build a strong resume.

- **Research Content** – Much of your research may be tied to and is in support of funded grants awarded to our group and potentially supporting your assistantship. Additionally, you may expect to work on several different projects throughout the course of your Ph.D., some directly related to your core dissertation work, and others that provide varied exposure to complementary topics. You will be responsible for conducting this work under my guidance and documenting research progress, including the opportunity to interact with our sponsors. While we must fulfill the obligations of these grants, this is not intended to limit your scope, creativity, or pursuit of advanced topics beyond our project scope. In fact, some of the most novel and unique work may be inspired by questions arising out of other projects. I encourage you to think outside the box and raise these ideas for pursuits in our discussions!
- **Reading** – It will be essential that you continually read to stay abreast of our field in scientific journals as well as conference proceedings, reports, monographs, etc. One of the best ways to prepare for writing quality journal articles is through reading and critical assessment of other papers. You should embrace both historic papers in our field relevant to your work, as well as the most recent work published by other groups. This will help you to avoid duplication, see what has worked and what hasn't, identify effective writing styles, develop ideas for follow up study, identify current gaps in knowledge, and develop new creative ideas for addressing problems. Hence don't be afraid to also read tangential papers from different fields to consider novel application of new methods to our problems.

I expect you to develop and maintain an electronic library of references, with notes and citations in EndNote, to facilitate sharing amongst our group. While you should conduct a very thorough literature review early on (i.e. semester 1), continual reading is a must. You should sign up where possible to receive email notification of tables of contents, and regularly search the library or proceedings to

identify new sources. Consider such quality journals in our field as ASCE's Journals (Bridge Engineering, Structural Engineering, Infrastructure Systems), Earthquake Journals (Earthquake Spectra, Earthquake Engineering and Structural Dynamics), Structural Control and Health Monitoring, Smart Materials and Structures, Engineering Structures, Probabilistic Engineering Mechanics, Structural Safety, Reliability Engineering and System Safety, Structure and Infrastructure Engineering, etc. The Fondren Library provides good support and a great source of information, so please utilize this resource.

- **Conferences and Professional Development** – Beginning in your first semester I expect you to participate in writing conference papers, either on ongoing or group research. This will help to develop your technical writing skills, which will be beneficial for conference or journal papers you lead author. Additionally, many of these conference papers will serve as a jumping point for more advanced journal papers. You can expect to attend approximately one or more conferences, professional society meetings, or workshops per year. Let me know if you hear of a conference that you are particularly interested in where you might be able to present a paper or poster. Conferences are very important events that enable you to share your work with the community, meet other leading scholars in our field, develop a community of graduate student peers around the world working in similar topics, stay abreast of the latest research and learn from others, network and meet potential collaborators, our research sponsors, and future employers. I expect that for those conferences that you attend, you will participate in and fully attend all of the events to make the most of your opportunities at the conference. Additionally, I am committed to helping you further develop your skills through other venues. We will work to identify other professional development activities that may be beneficial, or outside support to attend related events. For example, pre-conference workshops, OpenSees or software workshops, campus development activities such as thesis or technical writing session, etc.

Group Expectations and Activities

A cohesive and collaborative group will be important for our success, and help all of us to work more productively and enjoyably. We are too small of a group for anything other than highly effective teamwork.

- I expect you to excel in your classes and to make continued efficient progress towards your dissertation and publishable research. While your own research is your primary focus, you are expected to contribute to the group's overall success. This includes participating and collaborating in group or sub-group research projects, reviewing one another's papers and presentations, helping to train and mentor undergraduate or new graduate research assistants, contributing to group meetings and discussions, helping to host collaborators or seminar speakers hosted by our group. In addition, as noted in our Ph.D. program requirements, you may be required to assist in course instruction for my courses as a part of your advanced degree training. Finally, our group benefits from collaboration, discussion, and synergy with other research groups in the department or on campus. It is expected that you will periodically participate in multi-group efforts or activities, such as presentation rehearsals, seminars, etc.
- You can expect me to:
 - Advise you toward successful completion of your degree
 - Mentor you in preparing for and establishing your career, and identify and provide opportunities that will enhance your potential for future success
 - Listen attentively and provide constructive feedback
 - Review your papers and presentations in a timely fashion
 - Be responsive to issues that keep you from working productively
 - Support your participation in conferences, professional development, and other scholarly activities, and help you to identify additional sources of support
 - Provide you with direction, but also freedom to pursue your own ideas and endeavors
 - Provide you with the resources needed to conduct your work
 - Point toward contacts and additional information sources
- Meetings:

- We will hold individual meetings once a week to discuss your research progress and next steps. Before the meeting, send me items to review for discussion in our meeting (i.e. paper outlines, a brief writeup of recent work or findings, etc). Bring to the meeting printouts of work completed, results to discuss, and an outline of topics to guide an organized meeting discussion. Please be sure to take notes during our meeting and leave with a plan of work for the coming week. Additionally, I expect regular communication with written documentation of research progress, and *timely responses to email*, particularly when I am traveling. In short, I work very hard to be accessible, responsive, and attentive; I expect that in return you provide written documentation of regular progress, help facilitate orderly and effective meetings, keep in regular contact, and are responsive to requests.
- We will hold group (or sub-group) meetings periodically to discuss relevant literature, group research, and provide a forum for presentation rehearsal before conferences or other events. Depending upon our research projects, you may expect to have supplemental group meetings or conference calls with our collaborators.

I am looking forward to working with you and am very pleased to have you as a part of the Padgett Research group!

Building Your Lab -Transitioning to Independence

The handout accompanying the panel discussion presented by Bonnie Bartel and Rob Griffin at the 2010 NSF ADVANCE Workshop: Negotiating the Ideal Faculty Position, A Workshop for Underrepresented PhDs and Postdocs in Science, Engineering and Psychology September 19-21, 2010

Cultivate mentors and colleagues both inside and outside your institutional/departmental

- stay in touch with previous mentors
- seek out official department mentors – help with promotion/tenure etc.
- seek out informal mentors – more senior scientists
- build relationships with potential letter writers for tenure
- establish a set of confidants

Gain recognition and an independent identity

- talks, meetings (important for you and your students)
- service at institution (choose wisely)
- professional societies
- grant panels
- collaborations - understand your institution's culture/expectations on interdisciplinary research (joint publications, grants, etc.)
- publications!
- strong plan to separate *your* research program from previous advisor's program

Develop your leadership and management style

- create a vision for your lab
- create a mission statement
- develop a written five year plan
 - obtain feedback from senior faculty
 - assess progress and update often
- establish a lab culture
- build an effective team

Staff your lab

- determine staffing needs
 - technical staff
 - graduate students vs. postdocs vs. undergrads (dept/university funding available?)
 - be picky about who is your group – productivity does not scale linearly with numbers
- sell yourself as a junior PI
- learn what size group is right for you

Consider equipment needs

- balance of new vs. established techniques
- account for inflation when preparing budget
- funds for equipment maintenance?

Constantly improve leadership skills

- find role models
- take courses, read books
- get to know your strengths and weaknesses – exploit one, compensate for the other

Protect your time

- it is OK to say no (repeat daily)
- learn what does not require your best effort – save it for what really matters
- can be as important to learn what *not* to do as it is to learn what you need to do